

Remarks/Arguments

In the Office Action mailed on May 1, 2007, the Examiner rejected claims 11-15 and 20 under 35 U.S.C. §101 as directed to non-statutory subject matter. The Examiner rejected claims 1-2, 4-7, 9-12 and 14-15 under 35 U.S.C. §103(a) as unpatentable over Hower Jr. et al. (U.S. Patent No. 5,467,434) in view of Mori et al. (U.S. Patent No. 6,433,882), and rejected claims 3, 8 and 13 under 35 U.S.C. §103(a) as unpatentable over Hower in view of Mori in further view of Tominaga (U.S. Patent Publication No. 2002/0015180).

Applicants have amended claims 11-15 and 20 to recite a computer-readable medium storing a computer program product as requested by the Examiner. Applicants respectfully traverse the rejections and request reconsideration and withdrawal thereof.

35 U.S.C. §101 Rejection

The Examiner rejected claims 11-15 and 20 under 35 U.S.C. §101 as directed to non-statutory subject matter. Specifically, the Examiner stated that the claims need to recite "a computer readable medium storing a computer program product" in the preamble in order for the claims to be directed to statutory subject matter. Applicants have amended the claims as requested by the Examiner, and respectfully request reconsideration and withdrawal of the rejection.

35 U.S.C. §103(a) Rejections of All Claims

The Examiner rejected claims 1-2, 4-7, 9-12 and 14-15 under 35 U.S.C. §103(a) as unpatentable over Hower in view of Mori, and rejected claims 3, 8 and 13 under 35 U.S.C. §103(a) as unpatentable over Hower in view of Mori in further view of Tominaga. The 35 U.S.C. §103(a) rejections of all claims are traversed as the combination of Hower and Mori, or any of the prior art of record, considered individually, or in any combination, does not describe or enable all of the limitations of the present claims. The rejection will be discussed in regard to amended independent claim 6.

The present application is related to a system and method for operating a printing system in a multi-printer environment. More specifically, the present application is directed to a printing system and method which allows a printer operator to select printing options in a device independent format. The selected device independent printer options are stored in a job ticket,

and are subsequently used in the device independent format to print a print job on one or more printers. Typically, each printer manufacturer has a unique set of device dependent printer commands to support printer options, such as cover pages, paper substitutions and finishing options. Current print job ticketing solutions are generally printer specific or printer-family specific such that any ticketing settings will only work on a small set of printers. This forces an operator to re-ticket a print job (i.e., reselect the printer options) every time it is to be printed on a printer from a different printer family. The presently claimed apparatus and method allow a user to select printer options with respect to a print source file in a device independent manner. The selected printer options are then stored in a job ticket associated with the print source file. Later, when a printer is selected, the apparatus according to the present application reads the job ticket and a printer capability file and converts the device independent printer options from the job ticket into at least one device specific printer command sent to the selected printer. The selected printer then prints the print source file responsive to the printer specific commands.

By contrast, Mori teaches a device for processing intermediate files in a printer control system (see title of Mori). A user selects a printer 30 for a print job using printer driver 12 (col. 8, lines 45-57 of Mori). The user can further select options, such as multi-page printing, overlap printing, page order exchange printing (col. 8, lines 57-61 of Mori). A GDI 13 produces an intermediate EMF of each page of print data, which is stored in a device independent format (col. 6, lines 14-28 of Mori). Application 11 and print driver 12 create a command file for the print job, which includes information such as control data, an output port, a name of the printer, and a selected code generator for the selected printer (col. 8, lines 47-57 of Mori). The command file is merged with the different EMFs for each page of print data by spooler 18 to generate another EMF (see FIG. 3 and col. 9, lines 54-60 of Mori). The EMF is then converted by code generator 29 into control codes in a description language corresponding to the type of printer 30, and the control codes are transmitted to printer 30 (col. 11, lines 47-58 of Mori).

As stated by the Examiner, Hower discloses using a high degree of generality with respect to comparing printer options with profiles for a wide variety of printer families and their corresponding parameters and rules (see page 4 of the Office Action). However, as the Examiner correctly points out, Hower does not disclose that the printer options selected via the disclosed user interface are device independent printer options that are converted to at least one printer specific command for use in the output of the job on one of the plurality of printers. The

Examiner states that Mori teaches a printing system which uses a graphical device interface (GDI) and enhanced meta files (EMFs) to indicate commands for printing, that are converted to device dependent codes associated with a particular type of printer. Thus, the Examiner asserts that the combination of references teach an apparatus that allows an operator to select for a specific print source file a device independent set of desired printer options stored in a job ticket associated with the print source file, with the device independent set of desired printer options mapping to at least one printer specific command for at least one printer of the plurality of printers. Applicants respectfully disagree.

In the previous Office Action mailed December 12, 2006, the Examiner rejected the claims over a combination of Schwarz (U.S. Patent 6,476,927) in view of Shaw (U.S. Patent 5,604,843). The Shaw reference was cited for teaching the selection of device independent printer options that are stored in a job ticket in a device independent format, and subsequently converted into device specific commands. Essentially, Shaw disclosed a GDI, which provides a variety of functions for accessing devices in a device-independent manner (Shaw, col. 1, lines 54-55). Applicants previously argued that the conversion performed by the GDI of Shaw was not equivalent to the conversion performed by the apparatus of claim 6. In response, the Examiner withdrew the rejection over Schwarz and Shaw, and rejected the claims over the new combination of the Hower and Mori references. Applicants submit that Mori teaches essentially nothing more than the Shaw reference, and thus, the combination of Hower and Mori does not teach or reasonably suggest the apparatus of claim 6.

Essentially, GDI 13 (and GDI 25) of Mori allows application 11 (e.g., Adobe Reader) to output a print source file (e.g., a PDF file) from a device independent format to an output device (e.g., a printer) that utilizes a device dependent format. Typically, each output device has a manufacturer defined device-specific protocol for communicating with the device, as well an associated device driver (e.g., a print driver). Rather than requiring an operating system and/or an application program to know how to directly communicate with particular types of output devices, a common set of functions (e.g., a GDI) are available to the application program through the operating system to output a print job. More specifically, the GDI is an interface for representing graphical objects and transmitting the graphical objects to output devices such as printers. The GDI draws lines and curves, renders fonts, and handles palettes for an application. The operating system then calls a print driver for a specific device that implements device

specific functions corresponding to the common set of functions (e.g., the GDI) available through the operating system. The operating system may then communicate with the device using the device specific commands.

The system of Mori thus allows for an application to output a file stored in a device independent format (such as PDF), to a device specific format (such as IPDS) using various layers of functions within an operating system and print driver to generate the device specific format. While Mori does disclose printing commands relating to printing options, these commands are merged into the actual print data (i.e., the EMF) prior to conversion of the print data into device specific codes. Thus, the printer options for a print job are not stored in a job ticket associated with the print source file, but are stored in the print source file itself.

The present claims recite two distinct types of data relating to a print job. The first type of data is a print source file (i.e., the actual text and images that will be applied to paper during the printing process). The second type of data is printer options stored within a job ticket. The printer options include information regarding how the print source file will be presented on the paper (i.e., the paper color, whether the paper will be stapled or bound, whether the print source file will be simplex or duplexed, etc.). Regardless of how the print source file will be presented on the paper according to the printer options, the content of the print source file will remain the same. By contrast, the content of the print source file (i.e., the EMF) of Mori changes depending on which printer options are applied to the print job and saved within the EMF file as commands.

Neither reference teaches or reasonably suggests storing device independent printer options in a job ticket, mapping the device independent printer options into printer specific commands separate and distinct from the print source file, or utilizing the mapping to convert the device independent printer options into printer specific commands. Since neither Hower nor Mori teach or reasonably suggest these claimed features, the combination of the references does not teach or reasonably suggest the presently claimed apparatus of amended claim 6.

Applicants maintain that the apparatus of claim 6 is novel and also unobvious over Hower in view of Mori and over all art of record (considered individually or in any combination). The 35 U.S.C. §103(a) rejection of independent claims 1 and 11 is traversed for at least the same reasons as cited for claim 6. These same arguments apply to dependent claims 2-5, 9-10 and 12-20. In addition, dependent claims 2-5, 9-10 and 12-20 recite additional

limitations not disclosed by the combination of Hower and Mori. Applicants respectfully request reconsideration and withdrawal of the rejection of claims 1-20.

Conclusion

Applicants amended claims 11-15 and 20 as requested by the Examiner's 35 U.S.C. §101 rejection. Applicants maintain that all independent claims 1, 6 and 11 are inventively distinguishable from all prior art of record (considered individually or in any combination) for at least the above discussed reasons. Further, remaining dependent claims 2-5, 7-10 and 12-20 are allowable for at least the same reasons and as depending from allowable base claims. Still further, dependent claims 2-5, 7-10 and 12-20 recite additional limitations not disclosed by the prior art. Applicants therefore respectfully request reconsideration and withdrawal of the rejections under 35 U.S.C. §101 and 35 U.S.C. §103(a).

Respectfully submitted,

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